

PETROCHEMICALS AND FERTILIZERS

Introduction

The Indonesian petrochemical industry is progressing slowly towards recovery after the late-1990s economic crisis. The industry has relied on an abundant natural resource base of crude oil and natural gas and a large and growing market of more than 240 million people. It has been constrained by a lack of integration between the petroleum and petrochemical industries. The Asian economic crisis damaged the petrochemical industry. Many of the remaining companies have heavy debts. Indonesia's anemic investment climate significantly limits further interest in this sector. Since 2005 petrochemical producers have also faced high prices for basic materials as a result of soaring global crude prices.

In the last several years Indian, Japanese, and Chinese investors have expressed strong interest in investing in this sector, according to media reports, though actual investments have been slow in materializing.

The sector players have called for additional production capacity as growing demand and limited capacity have translated into increased imports of a number of key petrochemicals. They contend that the country is missing opportunities for job creation, foreign exchange revenues and a domestic buffer from international price changes. The Tuban petrochemical project completion in 2006 gave the sector a boost. The complex will add to Indonesia's production capacity of paraxylenes, benzene, and toluene.

In 2005, PT Petrokimia Nusantara Interindo (PENI), Indonesia's largest polyethylene producer, was acquired by Malaysia's Titan Chemical Corp, an integrated petrochemical producer controlled by Malaysia's state-owned asset management company Permodalan Nasional Bhd. Japan's Marubeni Corporation also divested its shareholding in Chandra Asri Petrochemical Complex (CAPC) to Commerzbank International Trust Singapore in 2005. CAPC was one of the companies restructured as a result of the financial crisis. CAPC owed \$463.6 million to the Indonesian Bank Restructuring Agency (IBRA) and \$731 million to private lenders, led by Marubeni Cooperation of Japan. In 2002, Marubeni agreed to convert \$147 million of its loans into a 24.59% equity share in CAPC. CAPC produces ethylene, propylene and polyethylene.

Tariff Reduction

The GOI had previously committed to reduce petrochemical product tariffs to comply with the Common Effective Preferential Tariff (CEPT) of the ASEAN Free Trade Agreement (AFTA). In 1998, the government lowered import tariffs on petrochemical products (ethylene, propylene, styrene, polyethylene, polypropylene, polystyrene and polyvinyl chloride) and their derivatives from 25-35% down to 10-20%, effective January 1, 1999.

Ministry of Finance Decree No. 187/2000 in May 2000 went a step further by reducing import tariffs for 708 items, including upstream and midstream petrochemical products. This decree lowered import duties on selected

petrochemical products (ethylene, propylene, styrene, polyethylene, polypropylene, and their derivatives) as of June 1, 2000. In 2003 the GOI decided to postpone further reductions, however, saying that current rates already were quite low at a range between 0-10%.

Import Tariffs, Selected Petrochemical Products (percent)

Product	MFN Rate	CEPT Rate
Ethylene	5	5/0
Propylene	5	5/0
Polyethylene	10/5	5/0
Polypropylene	10/5	5
Polystyrene	10/5	5
Polyvinyl Chloride	5	5

Major Products

Benzene & Paraxylene

Benzene and paraxylene have long been produced by Pertamina's Cilacap refinery with a declared production capacity of 108,000 tons per year and 252,000 tons per year, respectively. In 2006, Tuban Petrochemical opened a plant with a capacity of 300,000 tons of benzene and 500,000 tons of paraxylene per year. Due to significant domestic and international demand, the Tuban plant has been producing above capacity for paraxylene.

Pure Terephthalic Acid (PTA)

Since 1998, five PTA plants have been in operation – Pertamina Plaju Aromatic, Bakrie Kasei PTA, Amoco Mitsui PTA Indonesia, Polysindo Eka Perkasa and Polyprima Karya Reksa, with a combined capacity of 1.98 million MT per year. PTA is produced from paraxylene and is used as raw material for polyester production in the textile industry. The growth of Indonesia's textile industry and the demand for polyester raw materials provided the stimulus for Pertamina and private investors to enter into PTA

production. The bulk of production is sold to Indonesian polyester makers and for export purposes. In 2006 PTA production increased 5% to 1.845 million MT from 1.76 million MT in 2005.

Three Japanese partners led by Mitsubishi Kasei Corp. own Bakrie Kasei, the largest PTA producer in Indonesia with a total capacity of 640,000 tons per year. (PT Bakrie Brothers sold its 20% share in the company to its former partners in late 2000). Bakrie Kasei's first PTA production unit commenced operation in 1994 and the second unit in 1996. Amoco-Mitsui PTA Indonesia, a joint venture of Amoco Chemical (50%), now incorporated into BP, Mitsui Petrochemical Industries (45%) and Mitsui Company (5%), commissioned a PTA factory in Merak, West Java, in February 1998, with an annual production capacity of 420,000 MT per year. PT Polysindo Eka Perkasa of the Texmaco Group started a PTA plant operation in April 1997 with a capacity of 340,000 MT per year. PT Polyprima Karyareksa of the Napan group commenced commercial production in 1997 with an annual capacity of 350,000 tons. Pertamina Plaju Aromatics has an annual capacity of 225,000 tons.

Polypropylene (PP)

Three plants, with a combined production capacity of around 600,000 tons per year, produce polypropylene, which is a basic feedstock for plastic packaging material made from propylene. The three are Pertamina's plant in Plaju, South Sumatra (annual production capacity of 45,000 tons), Tri Polyta Indonesia's plant in Cilegon, West Java (annual capacity of 360,000 to 380,00 tons) and Polyrama Propindo, Indramayu, West Java (annual

capacity of 180,000 tons). Production of PP increased 2% to 536,000 tons in 2006.

Ethylene

Chandra Asri Petrochemical Center (CAPC) is the only ethylene producer in Indonesia, with an annual capacity of 550,000 tons. Actual production in 2006 of 490,000 tons (89% utilization) is well below the country's annual demand of over 900,000 tons. As a result almost half of ethylene demand is supplied through imports.

Polyethylene (PE)

Indonesia has a PE production capacity of 750,000 tons from its 2 producers, PT Petrokimia Nusantara Interindo (PENI) and CAPC. Indonesia's first polyethylene plant, PT PENI in Merak, West Java, came on stream in 1993, with an annual production capacity of 250,000 MT. In August 1998, the company completed its expansion project and increased its annual capacity to 450,000 MT. CAPC's polyethylene production capacity is 300,000 MT.

National production was below capacity at 470,000 tons in 2006, a plant utilization of 63%. Current demand for propylene is around 700,000 tons and demand for raw materials of plastics in Indonesia is growing around 8% per year.

Methanol

The country produced 690,000 tons of methanol in 2006, down 7% from 2005's 740,000 tons and a sharp drop from 2003's production of 792,000 tons. Prior to 1998, methanol was produced only by Pertamina's Bunyu Refinery, now operated by PT Medco Methanol Bunyu. PT Kaltim Methanol Industry in Bontang, East Kalimantan, came on stream in 1998,

and brought Indonesian methanol annual production capacity to 990,000 MT. PT Kaltim Methanol has plans to be a major methanol supplier to Asia. The first shipment of methanol to Japan was in March 1998. PT Kaltim Methanol is 85% owned by Japan's Sojitz Corporation (formerly Nissho Iwai Corporation). The plant has an annual production capacity of 660,000 MT.

The Projects

The long-suspended \$2.3 billion Trans Pacific Petrochemical Indonesia (TPPI) project in Tuban, East Java was completed in 2006. It resumed construction in June 2004 following approvals from Japanese creditors and a GOI guarantee letter for the project in 2003. The loan facility provided Pertamina with \$400 million to fund the remainder of the project.

The Tuban Petrochemical Project is owned by Trans Pacific Petrochemical Indonesia (TPPI), originally a subsidiary of the Tirtamas Group. The group transferred majority ownership of the project to the state asset management company PPA (formerly IBRA) in 1998 after the conglomerate failed to repay \$635 million in bank loans. At the time of suspension, Tirtamas had already completed 65% of construction. PPA and Tirtamas set up a new company, Tuban Petro, to manage the restructuring process. Consequently through Tuban Petro, PPA and Pertamina hold 59.5% and 15% respectively in the project. Other stakeholders include Siam Cement of Thailand, Sojitz Corporation (formerly Nissho Iwai) and Itochu Corporation. Recent news reports have indicated that Pertamina is interested in buying PPA's share of TPPI.

The completed plant has an annual production capacity of 3.6 million tons per year. The complex produces aromatic products consisting of paraxylene (500,000 tons), benzene (300,000 tons), toluene (100,000 tons), and orthoxylene (120,000 tons). It has greatly reduced imports of these products and can potentially replace of \$1 billion of imports per year, according to GOI officials. In addition to the above products, the complex also produces 1 million tons of naphtha and 1.6 million tons of kerosene and diesel.

Fertilizers

Installed production capacity at Indonesia's 20 fertilizer plants, operated by five state-owned companies, is 7.85 million MT of urea and 1.95 million MT per year of other fertilizers (SP-36, ZA, and NPK). Fertilizer production in 2007 was 7.9 million MT, up from 7.0 million MT in 2006, although urea production, at 5.9 million MT, has been flat for years, due largely to declining production of natural gas near many fertilizer plants.

Increasing fertilizer production is in line with rising demand this decade. Designated a strategic commodity, the GOI requires state-owned fertilizer companies to focus on meeting domestic demand first, rather than exports. As a result they exported no fertilizer in 2006 and 2007 exports were only 690,000 MT of urea. Production of non-urea fertilizer is insufficient to meet domestic demand, and fertilizer imports jumped by 20% or more than 2 million tons in 2007. The largest category of imports was potassium chloride, which is used as an additive to enhance the performance of other fertilizers. It is mainly used by soybean, tobacco and tea producers.

The fertilizer industry used around 205 BSCF of natural gas in 2006. Until September 2006, the GOI gave natural gas to the industry at a subsidized price ranging from \$1 to \$3 per mmbtu. Currently, the GOI gives the subsidy to each supplier based on the difference between cost of goods sold (COGS) and the retail price. Despite strong domestic and foreign demand for fertilizer, the industry is struggling for survival.

Difficulties in obtaining adequate gas supplies for fertilizer plants in Indonesia has become more severe in the past few years, leading ultimately to the shuttering of the production line at ASEAN Aceh Fertilizer (AAF) plant in 2003 and its liquidation in August 2005. AAF began its production in 1983, with shares controlled by Indonesia (60%), Malaysia (13%), the Philippine (13%), Thailand (13%), and Singapore (1%). Its plant had a capacity of 1.6 million tons per year.

At the end of 2007, the state-owned fertilizer company PT Pupuk Sriwijaya (Pusri) said it was continuing with its four-year, \$2.8 billion upgrade plan for its four plants. As part of the plan, they intend to switch from natural gas to coal to cut costs.

In January 2008, West Kalimantan government officials announced their intention to build the world's largest organic fertilizer plant with a peak production capacity of 300,000 tons per year, according to official Indonesian government media. The plant will begin operations in mid-2008 with an initial production level of 30,000 tons per year. The plant will rely mainly on chicken droppings for its feedstock.